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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,516

12/28/2005

Masahiro Goto

CU-4639 RJS

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LADAS & PARRY LLP  
224 SOUTH MICHIGAN AVENUE  
SUITE 1600  
CHICAGO, IL 60604

EXAMINER

NGUYEN, THONG Q

ART UNIT

PAPER NUMBER

2872

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/562,516	<b>Applicant(s)</b> GOTO, MASAHIRO	
	<b>Examiner</b> Thong Nguyen	<b>Art Unit</b> 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 18-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The present Office action is made in response to the amendment filed on June 3, 2008. It is noted that in the amendment, applicant has canceled claims 1-3, 6-8 and 10-17. There is not any claim being amended or added to the application. The pending claims 18-31 are examined in this Office action. Note that claims 4-5 were canceled in the amendment of 2/14/08 and claim 9 was canceled in the amendment of 8/31/07.

### ***Claim Objections***

2. The objection to claim 3 as set forth in the previous Office action has been overcome by the cancellation of the claim.

### ***Double Patenting***

3. The rejection of claims 18-19, 21, 23-28 and 30 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 12-13 and 15-37 of copending Application No. 10/587,551 as set forth in the previous Office action has been overcome by the filing of a Terminal Disclaimer on 6/3/08 which terminal disclaimer has been approved by the Office.

### ***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 18-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masahiro (Japanese reference No. 2003-66206 (hereafter Masahiro '206) in view of Cohen (U.S. Patent No. 4,621,898) (all of record).

Masahiro discloses an optical device. The device as described in sections [0053]-[0054] and shown in fig. 1 comprises a fresnel lens (104), a first view angle control sheet (103), a second view angle control sheet (102) and a touch sensor (101) arranged in that order from a screen of an liquid crystal display (105). From the descriptions provided in sections [0006]-[0012], [0056] and [0100], each of the view angle control sheet (103, 104) comprises the following structures: a) a first transparent base element (1), a second transparent base element (3) and a lens sheet (2) sandwiched between the first and second elements (1,3); b) the lens sheet (2) comprises lens portions having trapezoidal shapes in cross-sections and arranged at predetermined spaces from each others, and wedge-shaped portions having isosceles triangle shapes in cross-sections which wedge-shaped portions are arranged between the lens portions; c) the wedge-shaped portion has a refractive index which is smaller than the refractive index of the lens portion; d) each of the wedge-shaped portions comprises a bottom surface (7) facing the element (1) and two slopes formed an angle in the range of 5 to 15 degrees with respect to a normal line of the a light beam outgoing plane, see sections [0037], [0056], and [0074]; e) each of the wedge-shaped portions contains light absorbing (5) mixed in a resin base substrate (6) of low refractive index; f) in section [0074], the ratio between the refractive indexes of the materials of the lens portion and the wedge-shaped portion is in the range of 0.23 to 0.996 which covers the range of 0.8 to 0.98 as recited in claim 20, and the angle  $\theta$  is in the range of 5 to 15 degrees which

is inside the range as claimed in claim 19, and thus it is expected that the structure of the lens portion and the wedge-shaped portions provided in the mentioned section [0074] satisfies the conditions as recited in the present claims 18-20.

In particular, in section [0074], since Masahiro discloses that the ratio between the refractive indexes of the materials of the lens portion and the wedge-shaped portion is in the range of 0.23 to 0.996 and the refractive index of N1 is less than 5.76, then when the ratio between the refractive indexes  $N2/N1$  is selected as 0.995 and the refractive index N1 is selected as 5.5 then the refractive index N2 is about  $0.996 \times 5.5 = 0.991$  which is less than the refractive index  $N1 = 0.995$ . It is also noted that when the ratio  $N2/N1$  is selected as 0.995 and the angle  $\theta$  is 6 degrees then the relationship defined by  $(R - \cos(6 \text{ degrees}))$  is about 0.001 which is inside the range as claimed in claim 18. See also *In re Wertheim*, supra 541 F. 2d 257, 191 USPQ 90 (CCPA 1976); *In re Titanium Metals Corporation of America*, supra 227 USPQ 773 (Fed. Cir. 1985); g) The wedge-shaped portions can have its two slopes following a curved contour or a straight line, see sections [0030], [0076] and figs. 7; h) the use of light absorbing particles mixed inside a resin substrate in the volume and the relationship between the dimension of the particle and the width of the bottom surface of each wedge-shaped portion as described in sections [0014]-[0016] and [0095] satisfy the condition governing the relationship between the two as recited in present claims 25-26 and the crosswise stripe as recited in present claim 29; I) the use of antireflection coating,

antistatic coating, ...is disclosed in sections [0044], [0053] and [0066]; and j) the arrangement of two control sheets in a mutually perpendicular arrangement is disclosed in section [0006] and fig. 1.

Regarding to the feature that the width of the bottom surface is not more than  $1/1.5$  of a size of a pixel as recited in present claim 31, such a feature is within the level of one skilled in the art to control the size/dimension of the bottom surface of the wedge-shaped portion with respect to the size of a pixel in a display device for the purpose of providing an optimum result in quality of the image display.

Regarding to the feature that one of the angle formed by a slope with a normal line is larger than the angle formed by the other slope with the normal line as recited in present claim 22, such a feature is not critical to the invention because applicant has admitted that the slopes of the wedge-shaped portion are oriented in a similar fashion. Such a use of a wedge-shaped portion in the form of an isosceles configuration, i.e., the angles formed by the slopes with the normal line are equal, is indeed claimed as can be seen in present claim 21. Further, it is within the level of one skilled in the art to select individual slope angles based on the incident light to control the direction of light output from the wedge-shaped portion to a viewer.

The only feature missing from the light control sheet provided by Masahiro is that he does not explicitly disclose that the leading edge of the wedge-shaped portion faces to a viewer side with an outside light beam absorption effect and the

bottom surface of the wedge-shaped portion faces the image side as claimed. In the system as provided by Masahiro '206, the leading edge of the wedge-shaped portion faces the image side and the bottom surface of the wedge-shaped portion faces the viewer side. See fig. 1, for example.

However, it was decided in the Courts that a rearrangement or a reversal of the components in an optical device involves only routine skill in the art. In re Japikse, 86 USPQ 70; In re Einstein, 8 USPQ 167. Further, an arrangement of a light control sheet having lens portion having trapezoidal shapes in cross-sections and arranged at predetermined spaces from each others, and wedge-shaped portions having isosceles triangle shapes in cross-sections which wedge-shaped portions are arranged between the lens portions wherein the leading edges of the wedge-shaped portions face the viewer side is known to one skilled in the art as can be seen in the optical device provided by Cohen. In particular, Cohen discloses a light control sheet (15) having lens portions portion having trapezoidal shapes in cross-sections and arranged at predetermined spaces from each others, and wedge-shaped portions (15) having isosceles triangle shapes in cross-sections which wedge-shaped portions are arranged between the lens portions and grooves and contained light absorbing materials (18), see column 3, lines 4-23. Cohen teaches that the leading edges of the wedge-shaped portions can be arranged to face an image side or a viewer side. See column 4, lines 44-50 and fig. 3. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the view angle control sheet in the optical

system provided by Masahiro by rearranging the sheet so that the leading edges of the wedge-shaped portions face the viewer side as suggested by Cohen for the purpose of meeting a particular application. It is also noted that the combined product in which the bottom surface of the wedge-shaped portion faces the image side and the leading edge of the wedge-shaped portion faces to a viewer side as provided by Masahiro et al in view of Cohen will inherently have an outside light beam absorption effect due to the same structure of the optical element and the same arrangement of the optical element with respect to the image side and the observed side.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 18-31 as provided in the amendment of 6/3/08, pages 5-6 have been considered but are not persuasive for the following reasons.

Applicant has argued that the combination of art provided by Masahiro and Cohen does not disclose the relationship governing the refractive indexes as recited in the claim(s), the Examiner respectfully disagrees and respectfully invited the applicant to review the art of Masahiro, in particular, section [0074] which discloses numerical data of the refractive indexes of the materials of the lens portion and the wedge-shaped portion. In particular, in section [0074], since Masahiro discloses that the ratio between the refractive indexes of the materials of the lens portion and the wedge-shaped portion is in the range of 0.23 to 0.996, the angle  $\theta$  is in the range of 5 to 15 degrees, and the refractive index of N1



is less than 5.76, then when the ratio between the refractive indexes  $N2/N1$  is selected as 0.995 and the refractive index  $N1$  is selected as 5.5 then the refractive index  $N2$  is about  $0.996 \times 5.5 = 0.991$  which is less than the refractive index  $N1 = 0.995$ . It is also noted that when the ratio  $N2/N1$  is selected as 0.995 and the angle  $\theta$  is selected as 6 degrees then the relationship defined by  $(R - \cos(6 \text{ degrees}))$  is about 0.001 which is inside the range as claimed in claim 18. See also *In re Wertheim*, supra 541 F. 2d 257, 191 USPQ 90 (CCPA 1976); *In re Titanium Metals Corporation of America*, supra 227 USPQ 773 (Fed. Cir. 1985). Thus, applicant's arguments have been fully considered but they are not persuasive.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Nguyen whose telephone number is (571) 272-2316. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on (571) 272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thong Nguyen/  
Primary Examiner, Art Unit 2872